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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,563	08/01/2006	Ernst Ach	11596-72	4289
20694 7590 08/19/2009 WOLFF & SAMSON, P.C. ONE BOLAND DRIVE WEST ORANGE, NJ 07052				
EXAMINER				
KRUER, STEFAN				
ART UNIT		PAPER NUMBER		
3654				
MAIL DATE		DELIVERY MODE		
08/19/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/585,563

**Applicant(s)**

ACH, ERNST

**Examiner**

Stefan Krueer

**Art Unit**

3654

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19, 31 and 40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 is/are allowed.
- 6) ☒ Claim(s) 31 and 40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

**Claim 31**, inadvertently indicated as containing allowable subject matter per the previous office action mailed 8 January 2009, is herewith indicated as rejected. The pertinent subject matter of **Claim 31** was previously rejected over prior art of record in the body of the rejection of **Claim 40**.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 31 and 40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinz et al (2003/0121729) in view of Takahashi et al (6,419,605) and in further view of Drabot et al (2003/0051948).

Re: Claim 40. Heinz et al disclose an elevator installation (Fig. 3) comprising:

- an elevator cage (E);
- a drive pulley (P2);
- a deflecting pulley (P1);
- at least one support means formed as a flat belt (10); and
- a drive engine (M) which drives the at least one support means, which carries the elevator cage, by way of the drive pulley;
- wherein the support means has, at least on a running surface facing the drive pulley, several ribs (25) of wedge-shaped cross-section which extend parallel in a longitudinal direction of the support means and further has several tensile carriers (15) oriented in the longitudinal direction of the support means, the

tensile carriers being distributed in a transverse direction of the support means;

- wherein at least one of the drive pulley and a counterweight support roller (PCW) has grooves in its periphery formed complementary to the ribs of the support means;
- wherein the elevator cage is supported with a cage support roller (PE) around which the support means runs in order to support said elevator cage.

however, Heinz et al are silent with respect to a cross-sectional area of their support means, guide rollers, a plurality of cage support rollers and ribs of their support means being disposed on a side of the support means remote from said cage support roller.

Heinz et al, however, disclose their ribs of their support means disposed on a side of the support means remote from their counterweight support roller (PCW, Para. 0035), wherein their counterweight support roller and a deflecting pulley (P3) are "... referred to as "back-side" pulleys"

Attention is directed to Takahashi et al who teach their tensile carriers (2) comprising approximately 20% of a cross-sectional area of their support means (based on each rib,  $A_{\text{cross-section, tensile carriers}} \sim 3 \times C^2 \times \pi / 4$ ;  $A_{\text{cross-section, support means}} \sim d \times H \text{ less } 2 \times \frac{1}{2} \times h \times C$ ), wherein the number, arrangement and orientation with respect to each rib and rib flank is in keeping with the instant invention, for reductions in vibration and noise as well as enhanced service life.

Though Takahashi et al does not teach their tensile carriers (2) comprising at least 25% of a cross-sectional area of their support means, in that Heinz et al disclose their tensile carriers and ribs of wedge-shaped cross-section, and Takahashi et al teaches their tensile carriers comprising approximately 20% of a cross-sectional area of their support means, it would have been an obvious to one of ordinary skill in the art, as a matter of optimization and experimentation, to provide the tensile carriers comprising at least 25% of a cross-sectional area of a support means wherein the loading and

pulley diameters associated with elevators are taken into consideration and such constructions have been anticipated by the prior art of record.

Furthermore, with respect to Claim 31, based on a consequential increase in their diameters to afford the desirable load-carrying and structural reinforcing aspects to a respective rib, a total cross-sectional area of all their tensile carriers would comprise 30% to 40% of a cross-sectional area of the support means.

Additionally, Takahashi et al teach their guide roller (23, Fig. 7) wherein their ribs of their support means are disposed on a side of the support means remote from said guide roller, to promote tension about their drive pulley (23).

It would have been obvious to one of ordinary skill in the art to modify the reference of Heinz et al with Takahashi et al for user comfort and increased uptime.

However, Takahashi et al are silent with respect to a cage support roller(s).

Attention is directed to Drabot et al who teach their cage support rollers (28, Fig. 1 and 3) and their guide rollers (32), wherein their support means is biased into the grooves of their cage support rollers to provide lateral guidance for enhanced traction.

Though Drabot et al are silent with respect to their support means having ribs, Drabot et al teach their guide rollers (32, Fig. 2) similarly engaging a support means (24) of either belt or rope construction (Col. 2, L. 34) intermediate their drive pulley (28) wherein their guide rollers are depicted as having a recess (groove) to accommodate the support means. Furthermore, in that Heinz et al teach their deflecting roller and counterweight support roller as "back-side pulleys", wherein the ribs of their support means are disposed on a side of their support means remote from their support roller and Drabot et al teach their guide roller(s) approximate of their cage support rollers to promote lateral guidance for traction as well as having recesses (grooves) in their guide rollers to accommodate a similar application along their drive pulley, it would have been obvious to one of ordinary skill in the art to modify the invention of Heinz et al and Takahashi et al with the teaching of Drabot et al to promote lateral guidance and traction of a support means about cage support rollers for operating efficiencies.

***Allowable Subject Matter***

**Claim 19 is allowed.**

***Response to Arguments***

Applicant's arguments filed 8 June 2009 with respect to **Claim 40** have been fully considered but they are not persuasive.

Examiner apologizes for the inadvertent indication of **Claim 31** as being allowable in the previous office action mailed 8 January 2009.

The underscored portions of the body of the rejections above are in response to the amended claim language and to applicant's arguments.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wetzel (4,235,119); Bissig et al (2008/0081721); Schroder-Brumloop et al (6,138,799); Birman (1,820,427) and Yamashite (5,566,783); and Bissig et al (2008/0081721) and Garner (3,098,778) are cited respectively for reference of:

- teaching the preference of minimizing an amount of elastomer between tensile carriers in order to minimize loss of tensile strength of a support means;
- a flat belt having wedge-shaped ribs with tensile carriers wherein spacings between centers of two tensile carriers associated with a rib are smaller than spacings between the centers of adjacent tensile carriers associated with two adjoining ribs;
- an elevator counterweight equipped with support rollers around which a drive means runs in order to drive said counterweight;
- an elevator installation having guide rollers for providing lateral guidance to support means; and

- belts comprising either trapezoidal or wedge-shaped ribs wherein said belts include tensile carriers and a cross-sectional area of said tensile carriers is at least 25% of a cross-sectional area of said belt.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 571.272.6856. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Stefan Kruer/

Examiner, Art Unit 3654

13 August 2009

/John Q. Nguyen/

Supervisory Patent Examiner, Art Unit 3654